

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Offic**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

*PL*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/108,447	07/01/98	COLEMAN	G 97-677

IM62/0503

ROBERT J HAMPSCH  
CATERPILLAR INC  
INTELLECTUAL PROPERTY  
100 N E ADAMS STREET  
PEORIA IL 61629-6490

DEPT AB6490

EXAMINER

JOHNSON, J

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 05/03/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.	09/108,447	Applicant(s)	Coleman et al.
Examiner	J. Johnson	Group Art Unit	1764

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

### Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

Responsive to communication(s) filed on \_\_\_\_\_.

This action is FINAL.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

Claim(s) 1-7, 9 and 11-20 is/are pending in the application.

Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1-7, 9 and 11-20 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

### Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_  Interview Summary, PTO-413

Notice of References Cited, PTO-892  Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948  Other \_\_\_\_\_

## Office Action Summary

Art Unit: 1764

The request filed on April 11, 2000 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/108,447 is acceptable and a CPA has been established. An action on the CPA follows.

The use of trademarks have been noted in this application. Trademarks should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7, 9 and 11-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 8-16 of copending Application No. 09/108,875. Although the conflicting claims are not identical, they are not patentably distinct from each other because while not of the same scope, both applications are

Art Unit: 1764

directed to emulsions compositions having an average droplet diameter of less than about 10 microns comprising purified water and hydrocarbon petroleum distillate.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 9 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubin in view of WO 95/27021 and Schwab.

Dubin, U.S. Patent 5,284,492, teaches an enhanced lubricity water and fuel oil emulsion (column 3, lines 31-37). The emulsion can be either a water in fuel oil or a fuel oil in water emulsion (column 3, lines 41-44). The oil phase comprises a light fuel oil, by which is meant a fuel oil having little or no aromatic compounds and consists essentially of relatively low molecular weight aliphatic and naphthenic hydrocarbons (column 3, lines 45-49). Such fuels include fuels conventionally known as, *inter alia*, diesel fuel (column 3, lines 61-68). The emulsions advantageously comprise water-in-fuel oil emulsions having up to about 90% water by weight. The emulsions which have the most practical significance in applications when combusted alone are those having about 5% to about 50% water and are preferably about 10% to about 35% water-in-fuel oil by weight (column 4, lines 7-15). Although demineralized water is not required,

Art Unit: 1764

the use of demineralized water in the emulsion is preferred (column 4, lines 30-35). The emulsions are prepared such that the discontinuous phase preferably has a particle size wherein at least about 70% of the droplets are below about 5 microns Sauter mean diameter. More preferably, at least about 85%, and most preferably at least about 90% of the droplets are below about 5 microns Sauter mean diameter (column 4, lines 38-44). An emulsification system is most preferably employed to maintain the emulsion. A desirable emulsification system comprises about 25% to about 85% by weight of an amide, especially an alkanolamide or n-substituted alkyl amine; about 5% to about 25% by weight of a phenolic surfactant; and about 0% to about 40% by weight of a difunctional block polymer terminating in a primary hydroxyl group (column 5, lines 2+). The addition of a component selected from the group consisting of dimer and/or trimer acids, sulfurized castor oil, phosphate esters, and mixtures thereof significantly increase the lubricity of the emulsion (column 7, lines 15+). The addition of a corrosion inhibitor is taught in column 8, lines 56 to column 9, line 2. Dubin differs from the instant claims in not teaching the addition of an antifreeze additive or an ignition delay modifier.

WO 95/27021 (hereafter WO '021) teaches aqueous fuel compositions for internal combustion engines and a method of producing the same (page 1, lines 27-30). The fuel comprises a fluid emulsion comprising 20 to 80 vol. % water and carbonaceous fuel, preferably 40 to 60 % carbonaceous fuel, about 2 to less than 20 vol. % alcohol, and about 0.3 to 1 vol. % of a nonionic emulsifier (page 1, lines 30-36). The term "internal combustion engine" refers to and encompass any engine in which carbonaceous fuel is combusted with oxygen in one or more

Art Unit: 1764

combustion chambers of the engine. Presently known such engines include piston displacement engines, rotary engines and turbine (jet) engines, including electric spark ignited and compression, e.g., diesel engines (page 2, lines 27-31). Tests of fuel mixtures with varying alcohol contents have established the stability of the formulation is good with at least 2% alcohol. (Page 8, lines 13-14). Freezing-point observations indicated a dramatic lowering of the freezing point as the percentage of alcohol is increased (page 8, lines 17-19).

Schwab, U.S. Patent 5,669,938, teaches diesel fuel emulsions containing an emission reducing amount of at least one fuel-soluble organic nitrate ignition improver such as 2-ethylhexyl nitrate (abstract). The organic nitrate ester employed will fall in the range of about 500 to about 50,000 parts by weight of organic nitrate ester per million parts by weight of the fuel. Preferred concentrations usually fall within the range of 1,000 to 10,000 parts per million parts of fuel (column 3, lines 30-35). Other additives may be included within the fuel composition (column 4, lines 52-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to add the organic nitrate ignition improver of Schwab and the anti-freeze inhibitor of WO '021 to the diesel fuel emulsion of Dubin in order to provide their known benefits.

Claims 1, 3-7, 9 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peter-Hoblyn et al in view of WO 95/27021 and Schwab.

Peter-Hoblyn et al, U.S. Patent 5,743,922 (hereafter "Peter"), teach a water and diesel fuel emulsion containing up to about 70%, more preferably about 5% to about 70% water-in

Art Unit: 1764

diesel fuel. Most preferably, the emulsion comprises about 15% to about 45% water in diesel fuel. The water which is used to form the emulsion is preferably demineralized water (column 2, line 53 to column 3, line 15). The emulsions are prepared such that the discontinuous phase preferably has a particle size wherein at least about 70% of the droplets are below about 5 microns Sauter mean diameter. More preferably, at least about 85%, and most preferably at least about 90% of the droplets are below about 5 microns Sauter mean diameter (column 3, lines 35-41). A desirable emulsification system comprises about 25% to about 85% by weight of an amide, especially an alkanolamide or n-substituted alkyl amine; about 5% to about 25% by weight of a phenolic surfactant; and about 0% to about 40% by weight of a difunctional block polymer terminating in a primary hydroxyl group (column 4, lines 28+). The addition of a component selected from the group consisting of dimer and/or trimer acids, sulfurized castor oil, phosphate esters, and mixtures thereof significantly increase the lubricity of the emulsion (column 5, lines 47+). The addition of a corrosion inhibitor is taught in column 7, lines 28-41).

Peter differs from the instant claims in not teaching the addition of an antifreeze additive or an ignition delay modifier.

WO 95/27021 (hereafter WO '021) teaches aqueous fuel compositions for internal combustion engines and a method of producing the same (page 1, lines 27-30). The fuel comprises a fluid emulsion comprising 20 to 80 vol. % water and carbonaceous fuel, preferably 40 to 60 % carbonaceous fuel, about 2 to less than 20 vol. % alcohol, and about 0.3 to 1 vol. % of a nonionic emulsifier (page 1, lines 30-36). The term "internal combustion engine" refers to and

Art Unit: 1764

encompass any engine in which carbonaceous fuel is combusted with oxygen in one or more combustion chambers of the engine. Presently known such engines include piston displacement engines, rotary engines and turbine (jet) engines, including electric spark ignited and compression, e.g., diesel engines (page 2, lines 27-31). Tests of fuel mixtures with varying alcohol contents have established the stability of the formulation is good with at least 2% alcohol. (Page 8, lines 13-14). Freezing-point observations indicated a dramatic lowering of the freezing point as the percentage of alcohol is increased (page 8, lines 17-19).

Schwab, U.S. Patent 5,669,938, teaches diesel fuel emulsions containing an emission reducing amount of at least one fuel-soluble organic nitrate ignition improver such as 2-ethylhexyl nitrate (abstract). The organic nitrate ester employed will fall in the range of about 500 to about 50,000 parts by weight of organic nitrate ester per million parts by weight of the fuel. Preferred concentrations usually fall within the range of 1,000 to 10,000 parts per million parts of fuel (column 3, lines 30-35). Other additives may be included within the fuel composition (column 4, lines 52-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to add the organic nitrate ignition improver of Schwab and the anti-freeze inhibitor of WO '021 to the diesel fuel emulsion of Peter in order to provide their known benefits.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to

Art Unit: 1764

make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support in the specification as filed for the now claimed limitation of an average droplet diameter of between about 5 microns and about 6 microns, i.e., the specification, as originally filed, teaches an average droplet diameter of about 4 to about 6 microns.

This is a continuation of applicant's earlier Application No. 09/108,447. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however,

Art Unit: 1764

event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry D. Johnson whose telephone number is (703) 308-2515.

JDJ  
May 2, 2000

  
JERRY D. JOHNSON  
PRIMARY EXAMINER  
GROUP 1100